GAS JOURNAL

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GAS INDUSTRY NATIONALIZATION

IN his gracious Speech on Tuesday of last week, His Majesty intimated the intention of the Government to introduce during the present session a Bill to bring the Gas Industry under public ownership in completion of the plan for the co-ordination of the fuel and power industries. Immediately prior to the eagerly-awaited Speech there had been much speculation as to whether such a Bill would be introduced so early amid so many other vital measures in this period of grave economic crisis; but at last the Gas Industry knows where, if not how, it stands. During the debate Mr. Eden pungently remarked that all our problems to-day are overshadowed by our urgent economic interests, and that it was on these that the Government should concentrate and ought to have been concentrating during the last two years. And he added that the Government would not find the solution in nationalizing of the Gas Industry —a view shared by very many others. Nor can we agree with the assertion of the Prime Minister that the Gas Industry is already very largely in public hands and publicly controlled, for in fact only one-third of gas output is municipally owned. Still less can we agree with Mr. Attlee's comment that he could see no reason, apart from what were sometimes called "ideological prejudices," why anyone should quarrel with nationalization of gas. The Gas Industry is essentially a practical industry, a practical public utility, and it bases its work not on any ideological prejudice, but on the best service which it can give to the consumer and the community in general.

We were not at all surprised at the immediate reaction of the British Gas Council to this announcement regarding nationalization—expressing that the Council will oppose nationalization, which (in the words of a statement issued by the General Manager) "political project has become as untimely, in present circumstances, as it is unjustifiable." Throughout, while co-operating with and assisting Government Departments—and not only the Ministry of Fuel and Power—the B.G.C. has pointed out clearly that it was opposed "on principle" to nationalization. During its existence the B.G.C. has produced its plan and it has presented the case of the Industry with acumen and success in several directions. As example of the outcome of this work is the Gas Charges Order, 1947, which we publish on a later page of our issue to-day. This is one example only; the point we would make is that the British Gas Council is looked to—and quite rightly—by the Government as the responsible body which can speak for the Gas Industry and a body the suggestions of which cannot be ignored in the national interest.

As we have said, the Council has never wavered from its opposition in principle to nationalization of the Industry, so we regard the Council's reaction to the Government's announcement as logical. When the Bill for nationalization is drafted, opposition in principle will be transformed to opposition in fact. In the meantime, in the drafting of the Bill we have no doubt the Council will maintain its readiness to co-operate, so that any measure eventually passed shall, as far as lies in the Council's power, be in the interests alike of owner, employee, and consumer. It is, of course, essential that the Bill should be closely watched so that in the event there will emerge a Gas Industry best suited to the community in general and not merely suited to one particular section of the community. In this regard the Council has had experience in taking a hand in securing useful amendments to several of the clauses in the draft stage of the Electricity Bill. The gas nationalization issue has now come down from the clouds and has become one of major practical politics; and during the coming months we hope the Council as such, and its members, will be forthright and vocal in challenge to any harmful and misleading statements which may be made—and in whatever quarter—concerning an Industry which has served the public so well over so many years. We know that in this interim period, and irrespective of its length, gas undertakings, whether under company or municipal enterprise, will continue to provide for the immediate and future maintenance of an uninterrupted gas supply.

CONSUMER RECORDS

TWO years ago came the Heyworth Report, a document which asked the Gas Industry to look at itself as others saw it. That Report has been studied, many of its implications, for understandable reasons, have not been applied. One of these reasons has been the proposed nationalization of the Industry; we have, in far too many respects, been living in that parlous state of *status quo*. This inactivity of constructional thought in one direction has been anticipated and offset by a B.G.C. Salesmen's Circle. This, we think, is cause for pride and emulation, for in spite of abundant efforts to improve efficiency in its own field, it does not often happen that a Circle presents a Paper displaying either the quality or the foresight to influence other sections of the Industry. Great credit must, therefore, be accorded the North London District Circle which, as a result of considerable investigation, has produced a Paper on a neglected subject—a Paper which exhibits all the care and thoroughness found in the work of more specialized senior associations.

The Paper to which we refer was obviously based on that section of the Heyworth Report, of which the principal sting is found in Paragraph 197:—". . . we found that the sales statistics of the Industry were seriously inadequate.

Thus the Industry was unable to give us details either of the way in which sales were apportioned between different types of consumer or of the amounts used for various purposes by the very important domestic consumer. In fact, we gained the impression that with some notable exceptions the Industry had not made adequate surveys of the consumers' demands for gas." To meet this need and compile information based upon sound experience, the North London Circle formed a Sub-Committee under the chairmanship of Mr. W. F. Pritchard, of the Tottenham and District Gas Company. Taking for their subject, "Consumer Records," they set out "to consider whether consumer records are a necessary adjunct to the proper conduct of the sales work of the Gas Industry, and if so to advise the best practicable system in the light of modern commercial practice, particularly with regard to the possibilities of the standardization of such records throughout the Gas Industry and the posting of all information necessary to sales development." To this end the Sub-Committee visited a number of firms specializing in records and statistics and submitted a questionnaire to 100 undertakings in the United Kingdom, equally divided among the ten regions in the Heyworth Report.

Broadly speaking, there are three systems from which to choose:—visible records, or cards governed by colour or by being placed in alphabetical or numerical order, and capable of being quickly consulted by any person with only an elementary knowledge of the system employed; semi-mechanized punched cards, used partially in the same manner as the visible system, but with a certain amount of coded entries; and fully mechanized punch cards, recorded entirely in code and usable only by the hands of a trained operator. Layouts for use with each type of card were designed with great care, and in the Paper the necessary equipment is not only adequately described, but—what is far more important—its initial cost and operating costs are estimated.

The choice of system is clearly governed by the size of the undertaking, a fully mechanized system being an absurdity on a small district. The Sub-Committee suggest visible records for all undertakings, but that undertakings with over 3,000 and under 30,000 consumers should have, in addition, a semi-mechanized punched card system for extracting information rapidly for market research and canvassing, &c., while for undertakings with over 30,000 consumers, the visible system should be partnered by a fully mechanized system. Among the various recommendations made is that the size of each district should be such that each representative is able to keep a complete check on all records within his district. This is sound advice and should not, we feel, be regarded as a foregone conclusion, as it is a point of which many undertakings take all too scanty a notice.

The Paper is interesting following Mr. J. D. Thomas's Paper, "Mechanized Accountancy and Statistical Work as Applied to the North Middlesex Gas Company," presented to the Southern Association of Gas Engineers and Managers in April. Here, mechanical recording was used for somewhat different work, but the description of the equipment and mode of operation in a sense supplements this Circle Paper.

Any and every Paper has its shortcomings and its blind spots, and while we do not intend to subject "Consumer Records" to a critical analysis, it would perhaps be permissible to indicate one or two of the sections requiring some elaboration and the difficulties likely to be encountered by those following the recommendations. First, the uses to which accumulated records can be put are not enlarged on; we suggest the Paper would carry more weight with the hesitant sales or service manager if the possibilities for planning maintenance charges, hire-purchase agreements, and appliance requirements computations were explained more fully. Secondly, we imagine that certain undertakings which in the past have troubled little about strictly accurate records would shy at the suggestion that two complete systems, visible and mechanized, be used. Considering the difficulties of individual reference with a fully mechanized system and the laborious work entailed in obtaining bulk statistics with a visible system, the advice contained in the Paper is sound enough; it is to be hoped that the argument finds appeal in the right quarter. Thirdly, is the method suggested in the Paper really the simplest and cheapest method of obtaining information? It is almost certain that for particular purposes the slab or sectional survey method is more economical, but it undoubtedly lacks the advantage of always being up-to-date.

These are minor issues; the important fact is that "Consumer Records" is a pioneer effort breaking new ground, and it deserves recognition in a sphere of influence of far greater circumference than the Salesman's Circle in which it was conceived. The greater part of the Paper will be published in the November issue of "GAS SERVICE," and the discussion which followed its presentation on September 30 will appear in the issue for December.

Commentary by "Abaris"

Vitamins

Vitamins were unknown at the beginning of this century and, when discovered as accessory food factors, were called vitamins because they are vitally necessary. There are quite a few of them and more are being discovered; what is important is that deficiencies of one or more vitamins in our diet will lead to indisposition, and if continued, to what doctors call well-defined morbid states—*i.e.*, real sickness and worse.

I want not to inflict a condition of hypochondria on you, but just to talk round this most interesting subject of dietetics, with special reference to English cooking. Continentals laugh at us for our culinary unimaginativeness and our wives are scorned for their cooking; music hall jokes hereon were a commonplace in the good old days.

Yet English food when cooked and freshly served is unequalled dietetically—I don't mean that the present rations are superb, but there is far too much loose talk about calories and not enough about vitamins.

The Continental housewife and chef overseason and overcook most of their dishes. The results are very aromatic and titillate the palate, but the destruction of the vitamins is a foregone conclusion. We cook potatoes and eat them almost immediately, getting all the benefit from what vitamins A, B_2, and C are left in the cooking. But to re-heat those potatoes, or to *sauté* them, leads to a higher proportion of vitamin losses. The same applies to most vegetables; and cabbage water is always thrown away with all the salts from the cabbage leaves.

Most of us have spent a shorter or longer time on the other side of the Channel, ingesting and digesting over-prepared yet tasty foods; and, without knowing it, have been short of vitamins. English cooking may not be as odoriferous as French preparations, but it is certainly more vitaminiferous and therefore more health-promoting. Let us not laugh at our cooks; rather let us justify the English way, on sound dietetic grounds.

War in the U.S.A.

A more misleading title you have never conned, and it is hyperbolical, anyway. It seems that a certain Mr. William Bethke, Educational Director of a learn-through-the-post institution, is out to teach electric appliance salesmanship in a series of easy lessons; and Mr. Bethke does not pull his punches. No, Sir, he just lets rip, and at long last has hit too often below the belt. So he is being challenged to a fair fight, with rules.

Now, Mr. Bethke says that the public is really enthusiastic about the electric cooking range and that homemakers recognize the marvellous advantages of this new way of cooking. Mr. Bethke has, in fact, considerable ebullience, and it has been pointed out to him that, in the U.S.A., 23 million homes cook with gas and only 4 million cook with electricity. A ratio of a mere 6 to 1.

As far as the fuels are concerned, the combined sales of gas in 1946 amounted to 2,613,390,100 million B.Th.U.; electric sales were 651,692,000 million B.Th.U.; giving a ratio of 4 to 1.

This is statistical evidence, but the war of words is to the point, for, as the gas interests show, "the course reaches a new low in appliance

promotion." Mr. Bethke says that pots and pans are blackened by gas flames—*i.e.*, " by the carbon, grease or tar, water and the noxious gases "; all of which leads me to think that he and his hucksters are narrow-minded.

Mr. B. is well countered by figures issued by the National Fire Protection Association on whose lists electrical faults, as causers of fires, are a good *third*. Between 1941 and 1945, electricity caused 55,700 fires. Gas is 22nd, with 4,300 fires; 28 items figure in this imposing list, so the position of gas is pretty fair. The gas protagonists point out that 25 million homes are carcased for gas and that 31 million homes are wired for electricity. And even in view of these totals and making all allowances for the higher electrical total, the hazard of electrical fires over gas is 14 to 1.

Mr. Bethke will have his work cut out if he wants to reply adequately to his antagonists.

Technical Administrators

The argument about administration and the technical expert is as an endemic disease, likely to occur with monotonous frequency. The present Gas Industry is a highly technical one; none will deny that fact. The Industry became a real sales organization only after the stimulus of electrical competition had made itself felt; a comparatively recent occurrence dating from about the 'nineties. History can be made to prove many things. I am trying to be veracious.

In recent years, non-technical individuals have taken on appointments of huge responsibility with every sign of success; a gratifying contradiction to those who are didactic about administration.

The specialist seems to be an indispensable product of modern life, but specialization can be a bit of a nightmare to the specialist himself. It puts him in a watertight compartment, to a large extent, and does not make for versatility. The real chemist, always probing into the partly unknown, or the known, seems to be in a different world; to carry watertightness a step further. The world demands specialists, and while there is this demand, there will be a corresponding supply.

On the other hand, if a man is first class at his speciality, then it would appear to be a gross mistake to take him away from it and put him into administration, where his talents may not be nearly as productive as before.

Some Statistics of Note

I was speaking recently to someone in the Gas Industry and was taken aback rather by his innocence anent the statistics of his Industry. Perhaps he is too busy to seek out figures and to memorize them; perhaps you are in the same boat. If this is so, then it would be as well to detail some of the salient points as a kind of *aide-memoire*.

There are about 1,050 gas undertakings in Great Britain, employing directly some 125,000 people, and giving full time work to no less than 70,000 coal miners. The capital value at the present time is of the order of £270 millions, of which at least £91 millions can be ascribed to municipal undertakings which number 269 and sell about one-third of all the gas used by consumers.

A vast number of undertakings is pitifully small; no fewer than 762, for example, each make less than 1.25 million therms per year, and altogether supply only 13% of all gas sold to the nation.

The whole Industry carbonizes 21 million tons of coal every year, and if you relate this to the Ministry of Fuel and Power's figure for the year, it is over one-tenth. Our sister industry engaged on coking, uses about the same quantity of coal, and sells some of the gas made to the public, ultimately. Coking, in fact, supplies about 12% of all gas sold.

Eleven holding companies control 264 subsidiaries which are responsible for about 11% of gas sales.

Approximately 12 million consumers burn 2,000 million therms annually, giving an average consumption of 166 therms.

One could go on for hours with gas figures, but they are a bit too reminiscent of the Chancellor's efforts. I should like to suggest a gas week in which all undertakings gave these facts to the public.

Stratification

Stratification is a phenomenon of importance whether it is applied to the earth's crust, to water at different temperatures, or to humanity with its varying proclivities. In the Gas Industry there seem to be, generally speaking, three separate strata:

1. Engineers and chemists.
2. Clerical staffs.
3. Manual labourers.

I place the technicians, the experts, first, not because they are necessarily the most important, but because logically they are first in the manufacturing process. It seems absurd to say they are a link in the chain of gas making, but some would appear to believe they are the be-all and end-all in the Industry. This is not correct; no link can be a complete chain and no one cog can operate the machinery in a watch.

The clerical staffs seem to appraise themselves as the salt of the earth, a self-deception that is maddening to the outside sociologist. Aloofness is stupidity at any time and there is a deal of stupidity still in evidence up and down the country. In the main the clerical grades are expert at nothing. I go as far as to say that a lot of the routine work they do is little ahead of that done by the junior bank clerk. They have no case for raucous self-congratulation at any time.

The manual workers or labourers have prospered with the swing of the pendulum and are well organized. So well organized, in fact, that it is almost impossible to sack a man without causing serious disaffection. In the background there is an uneasiness among the work-people of the larger undertakings that does not augur well in the future.

For employees, I postulate three strata, but there are only two kinds of consumer; the satisfied and the unsatisfied, and both of them give us our revenues. It is for these customers that the whole of our capital, brains, and hands work; it is for them that the machine called the Gas Industry works and that machine must be fully integrated and kept running smoothly. Consideration is required, now.

Personal

MR. C. M. PLOWMAN, Secretary of the Federation of Gas Employers, wishes to thank his very many friends in the Gas Industry, for their kind letters and enquiries and to say that he is making a slow but sure recovery to health, and will reply to letters in person, at a later date.

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Alderman J. B. GRIFFIN was thanked for his work when he intimated at last week's meeting of the Nottingham Corporation Gas Committee that he will relinquish the Chairmanship at the end of the municipal year because of the Labour Party rule that no member should hold that office in two committees. He is also Chairman of the Public Parks Committee.

* * *

Mr. B. H. MOORE has been appointed to the sales staff of George Wilson Gas Meters, Ltd. He has recently been serving with His Majesty's Forces in Burma, and was for a considerable time with General Wingate. Since his return Mr. Moore has been employed within the firm's factory at Coventry gaining an insight into the technicalities of the trade.

* * *

Mr. W. TODD, on retiring from his position as Works Manager of the Parkinson Stove Co., Ltd., was recently presented with a silver tea service, suitably inscribed, by Mr. R. J. Rogers, Deputy Chairman, on behalf of the Management and staff of the Stechford Division of Parkinson & Cowan, Ltd. During the 16 years Mr. Todd has been with the Company he has seen many changes, including mechanization of the foundry and installation of the continuous enamelling plant.

Letter to the Editor

British Gas Staff Association

DEAR SIR,—The Government's declared intention to promote a Bill to transfer the Gas Industry to public ownership during the present session of Parliament makes it increasingly urgent that all gas staffs, of whatever rank, should be organized in order that their views may be stated to the Ministry and that negotiations on their behalf may be conducted at the highest level. The British Gas Staff Association already speaks with the authority of the majority of organized staffs, having almost 12,000 members, all of whom are employed in the Industry and comprising administrative, technical, and clerical staffs. This Association is concerned solely with the interests of gas employees and is staffed and controlled by men trained in the Industry. It can, therefore, speak with knowledge in all matters affecting gas staffs and is recognized by the present employers with whom a National Joint Council for Gas Staffs has recently been set up.

Yours faithfully,

F. C. HENFREY-SMITH,
General Secretary.

British Gas Staff Association.
12, Hall Drive,
London, S.E.26.

Oct. 22, 1947.

News in Brief

New Plant is to be installed at Kirkintilloch Gas-works with a daily production capacity of one million cu.ft.

Tenders are to be invited by Darlington Corporation for the supply and installation of additional carburetted water gas plant at the gas-works.

The Installation of electrical de-tarrers at the gas-works at Belgrave Gate and Aylestone Road, Leicester, is under consideration by Leicester Gas Committee.

The Grey (discussion) edition of Communication No. 307/132 (Third Arthur Duckham Research Fellowship Report) of the Institution of Gas Engineers is now available. The price is 2s. 6d. per copy (post free), and application should be made to the Institution, 1, Grosvenor Place, London, S.W.1.

The Trade Statistics for July, 1947, just issued by the Department of Industry and Commerce in Eire, show imports of 6,803 tons of gas coal, valued at £19,671, as against 28,040 tons, valued at £84,829, in July, 1946. This brings the total of these imports for the first seven months of 1947 to 61,741 tons, valued at £221,074, compared with 143,471 tons, valued at £417,563, in the corresponding period of 1946.

Glasgow Gas Department staged an attractive show at the "Modern Homes" Exhibition, organized by the Corporation, in the Kelvin Hall, and opened by the Lord Provost on Oct. 15. The Corporation stand featured cookers, water heaters, refrigerators, radiators, fires, and wash boilers, with instantaneous heaters as a particularly important part of the show. An interesting feature was the number of packaged kitchens included.

When the "Enterprise Scotland" Exhibition closed on Oct. 18, 456,193 visitors had passed through the turnstiles. These visitors included trade buyers from 21 countries. Speaking to the last visitors just before the close of the exhibition, Sir Steven Bilsland said that the exhibition had been a gesture of confidence in the future of Scotland. So long as Scotland possessed the will to work and the craftsmanship and enterprise which had created the goods in the exhibition, Scotland could face the future without fear.

The Lord President of the Council, Mr. Herbert Morrison, has decided that the new mechanical engineering research station, which is being set up by the Department of Scientific and Industrial Research, shall be sited in Scotland. The Department will also establish in Scotland sub-stations for fuel research, building research, and road research. Broad national considerations determined the decision to locate the new station in Scotland, where it will undoubtedly be an aid to local as well as national development. Taken in conjunction with the establishment of local branches of the fuel, building, and road research stations, it will provide a considerable extension and diversification of research facilities available in Scotland.

The Minister of Fuel and Power, Mr. Hugh Gaitskell, made his first public speech in that capacity on Oct. 13, when he appealed for greater economy in the domestic use of gas and electricity. If this winter, he said, domestic consumers "went crazy," and there was a runaway expansion of the electricity demand, that would constitute the gravest threat that he could see to our whole national recovery. Mr. W. H. Lloyd, Manager of the Westminster Office of the Gas Light and Coke Company, remarked that 12,000,000 homes used gas, and if in each home only 10 therms a year were saved the saving in coal would be no less than an equivalent of 1,600,000 tons. If everybody read their gas and electricity meters weekly and kept a weekly log we could look forward to considerable savings. Industry took about one-fifth of all London's gas, and a very large proportion of this was going towards building up exports.

A Feature of *Modern Living* will be the outstanding colour photographs of Mr. Percy Hennell, and the contents generally are calculated to engender goodwill among consumers without forcing sales. Next year it is hoped to make *Modern Living* a full quarterly magazine, larger in size. Among the features for the Christmas number are: *Christmas in the Home*: A front cover and inside double spread of pictures in full colour by P. J. Hennell, illustrating Christmas Eve and Christmas Morning in Everybody's Home. *The Christmas Spirit*: by Monica Dickens, great-granddaughter of the famous novelist. *Itma's Christmas Revels*: Tommy Handley and his radio family demonstrate Christmas games for every home. *Cookery*: A special feature article, including some easy to prepare, economical, and seasonable dishes. *Austerity Made Easy*: An article on fuel economy and frost precaution coupled with a new national competition. *Fashion*: This section includes a feature on how to make last-minute Christmas presents. *Choose the Right Toys*: An illustrated article by Nancy Catford. *Home Feature*: "Good Design helps the Housewife," by Leslie Hardern, with illustrations of the modern cookers available to consumers in 1948.

Terms Have Been Agreed, subject to confirmation by the Ministry of Fuel and Power, for Spalding U.D.C. to supply gas in bulk to the Long Sutton and Sutton Bridge Gas Company.

The Supply of Gas from Newburgh Gas Company was discussed at Newburgh municipal election meeting, when Mr. Donnachie, Manager of the Gas-works, reported on work being done to improve the supply.

An Exhibition of Danish tableware, kitchen equipment, house-furnishings, and textiles opened in the Glasgow Corporation Gas Showrooms on Oct. 17, organized by the Society of Danish Handcraft and Industrial Art.

Mr. E. V. Quickenden, O.B.E., of the Nottingham Corporation Gas Department, gave a talk on "Hot Water," illustrated by films, in a series of "Homecraft" lectures given at the Gas Demonstration Theatre, Nottingham.

On Tuesday Next, Nov. 4, Ascot Gas Water Heaters, Ltd., will be showing (at the Hamer Cinema, 113, Wardour Street, W.1, at 5.15 p.m.) for the first time the new Ascot instructional film, "Symbols of Service." Through the courtesy of the British Gas Council the firm is including the Council's own new production entitled "The Nation's Wealth."

A New Gas Turbine Laboratory at the Massachusetts Institute of Technology, equipped with the most advanced facilities for graduate instruction and fundamental research in this field of engineering, was dedicated on Oct. 7 at ceremonies attended by high Army and Navy officers, members of the Institute's corporation, educationists, and a notable group of industrial leaders representing almost every field of engineering. The equipment of the new laboratory includes a supersonic wind tunnel and other unique facilities for research.

The City of Durham Gas Company was recently requested to fix a consumer's own water heating appliance. A fitter was duly instructed and on arrival at the consumer's premises was shown a large chromium plated water boiler with a host of knobs and levers. He was presented with a book of instructions written in Italian. When arranging future courses for gas fitters and company personnel in general, should foreign languages also be included in the syllabus, especially if this type of appliance is about to become popular in this country?

A New Gas-making Plant to produce 2,750,000 cu.ft. a day—with provision for an extension to increase output to 3,500,000 cu.ft.—is to be built at Tipton, at a cost of £245,000, if the Ministry of Fuel and Power approves the Town Council's acceptance of a tender. At a meeting of the Council on Tuesday last Councillor J. E. Salter asked if the expenditure was imperative at the present time. Councillor W. S. Hill, Chairman of the Gas Committee, said it was. Since 1929 production of the present plant, laid down in 1914, had increased to 600 million cu.ft. annually and did not yet meet demands. The proposed new plant would not be operating before 1951, he said.

An Explanation of how Darwen Corporation propose to provide the best street lighting while complying with Government restrictions was given by Alderman J. T. Clark to his Committee. "At the commencement of the season," he said, "instructions were received from the Ministry that fuel used must be reduced to 50% pre-war. Thus the Committee would have to maintain the pre-war standard of lighting on half the lamps or reduce consumption on each lamp and allow approximately 90% of them to be lit. The first alternative would have given rise to danger to pedestrians and in some cases given partial or complete darkness. To spread the light evenly the second alternative had been adopted for its uniformity would give the best possible service."

THE ELECTRICITY AUTHORITY

Lord Citrine, Chairman of the British Electricity Authority, emphasized last week that his newly-formed central authority was not a single entity which would control the whole electrical industry. He said that its job would be "to co-ordinate the activities of 14 separate and autonomous area boards and maintain an efficient and economical supply of electricity to all parts of Britain." He explained that autonomy meant the general right of the area boards to control their own affairs without interference from the central authority.

He intended that there should be as little disturbance as possible in the affairs of other organizations in the industry, such as the Electrical Development Association and the Electrical Association for Women, and added that neither of these would have to curtail its work for lack of money.

FOR ART'S SAKE

It is not often that art, by which is meant primarily the application of pencil or brush to paper or canvas, finds its way into the technical columns of the "GAS JOURNAL." Nor for that matter are the names of Rembrandt, Gainsborough, or Paul Cezanne mentally or typographically mingled readily with Murdoch, Clegg, or Henry Woodall. Yet it is clear that some fusion of the two spheres must occur, for the bodies of art and gas are spinning ever nearer each other. To our knowledge, the first contact was made quietly and unobtrusively six months ago when the Sports Club formed for the benefit of the Gas Light and Coke Company's personnel at Watson House and Imperial House, sprouted a sketch club. This tiny shooting star passed largely unobserved except to those in the closest proximity. It flickered minutely and nobly across the infinite for half an earth year to land upon us with a positive blaze of light on the evening of Oct. 22. As a result of visiting the scene of its arrival and eruption we now view familiar figures in a new light, for beneath the polished exterior of the graph, the infra-red tunnel, the hotplate, and the copper tube lurks the soul of the artist.

Credit for the formation of the club goes to Mr. B. A. Vinter, who has clearly nursed his brainchild with a mother's care and on a healthy diet, and the first exhibition was a revelation of lights which had spluttered beneath bushels for far too long. How many of their friends in the Industry, we wonder, knew that Mr. R. N. Le Fevre forgot his training schemes long enough to take to his water colours, that that well-known duo, Andrew and Holliday, achieved results with their cameras that would render many a professional green with envy, and that Mr. R. F. Hayman could produce skilful tapestry work which took literally years to complete? Other excellent photographs were exhibited by Mr. F. Lockwood, confident landscapes in oils by Mr. A. R. Windsor, and a fine still life by Mr. R. F. Martin. Some had not sought their inspiration far afield as an effective study of the Beckton No. 1 Pier by Mr. F. Kiss bore witness. Most remarkable of all, however, was the versatility of Mr. W. Everson, who tripped from water colour to pastel and on to scraper board with the ease of an accomplished acrobat.

This may not be the only sketch club in the Gas Industry—indeed, we hope it is not—but it is the first to reach our ears. As Mr. Michael Milne-Watson asked when he opened the exhibition at Imperial House, if this is the result of six months' work, what can be expected at the end of a year? We ourselves have the greatest expectations.

REORGANIZATION IN YORKSHIRE

The following changes have recently taken place in connexion with the Gas Industry's organizations in Yorkshire.

Mr. C. S. Shapley (Leeds), who has for many years occupied the position of Chairman of the National Gas Council (now British Gas Council) and the Federation of Gas Employers, Yorkshire (West Riding) District, has decided to relinquish these positions in order that some of his younger colleagues might have the opportunity of serving the Industry in a wider sphere. The members of the organizations concerned are very appreciative of the work of Mr. Shapley during his long period in office.

Mr. G. E. Currier, M.B.E. (Bradford), has been elected to succeed Mr. Shapley as Chairman of both these bodies. Mr. A. McDonald (York, Harrogate, and District Group of Gas Companies) is Vice-Chairman of the British Gas Council, and Mr. N. Hudson (Mirfield) Vice-Chairman of the Federation of Gas Employers, Yorkshire (West Riding) District.

Consequent upon his election as Chairman of the two District Committees mentioned above, Mr. Currier has resigned from the Chairmanship of the Yorkshire Gas Coke Association, a position he has occupied since the formation of the Association, and from the Chairmanship of the Yorkshire Commercial Section of the Manchester District Association of Gas Engineers. Mr. James MacLusky (Halifax) has been elected Chairman of the Yorkshire Gas Coke Association, and Mr. H. Singleton (Huddersfield) Chairman of the Yorkshire Commercial Section. Mr. N. Hudson continues as Deputy Chairman of the Yorkshire Gas Coke Association, but Mr. N. G. Appleyard (Leeds) succeeds Mr. J. E. Lister Cooper (Yeadon and Guiseley), who has resigned from the office of Deputy Chairman of the Yorkshire Commercial Section.

Mr. H. Burton, who has been Regional Secretary of the British Gas Council and Federation of Gas Employers, and Secretary of the Employers' Section of the Regional Joint Industrial Council, has also resigned, and Mr. C. L. Davies, Secretary of the Yorkshire Gas Coke Association and Yorkshire Commercial Section, has been appointed Regional Secretary of these organizations as from Oct. 1.

Arrangements have been made to lease office accommodation in Leeds, where all the organizations will be centralized, but until these premises are ready for occupation the work will be carried on from the present offices of the Yorkshire Gas Coke Association at 7, Park Square, Leeds (Telephone Leeds 25691).

MIDLAND ASSOCIATION

At the Autumn General Meeting of the Midland Association of Gas Engineers and Managers, held at the Midland Counties Coke Association Offices, Birmingham, on Oct. 16, Mr. Percy Dougall (President, Kidderminster), who was supported by Mr. S. J. D. Williams (Stourbridge) as Vice-President, referred to the passing of Mr. James Paterson (of Cheltenham, retired) and Mr. James Mitchell (of the Leicester Undertaking). Mr. Paterson had been a member of the Association for over 30 years, and was a Past President and also an Hon. Member. Mr. Mitchell had been a regular attendant at their meetings and a contributor to their discussions, and took a great interest in the development of the Gas Industry.

The Hon. Secretary (Mr. J. H. Wainwright, Halesowen) reported that the Committee recommended the election of two applicants for membership: Mr. S. R. Bennett, of Bridgnorth, and Mr. S. Tomlinson-Jones, of Leek. The meeting confirmed the recommendation by ballot, and the President welcomed both members.

The President explained that no Paper was available on that occasion; hence they had before them a couple of films.

The films shown were "The Erection of the Rainbow Bridge at Niagara Falls," and "The Failure of the Tacoma Narrows Bridge," by permission of the Institution of Civil Engineers. The former bridge, said Mr. Dougall, was constructed in 1942, and was a remarkable piece of engineering work, which the members recognized as the film proceeded. The second bridge, in the State of Washington, was of French design of the suspension type, and collapsed within a short period of its erection (in 1940) owing to violent swaying caused by prevailing winds. The effect of high winds on the roadway could hardly be credited but for cinematograph records; the bridge had a 28 ft. drop and rise, and the film showed how it broke down.

The President afterwards entertained the members at a buffet tea.

Diary

Oct. 31.—Manchester District Association of Gas Engineers: Autumn Meeting. "Four Years' Developments at Preston," A. K. Collinge. Midland Hotel, Manchester.

Nov. 5.—Institute of Fuel: Meeting of London Section, Institution of Mechanical Engineers, 2.30 p.m. Paper by D. Hicks on "The Coal Resources of the Country."

Nov. 5.—London and Southern Junior Gas Association: Visit to the Letchworth Works of the Sigma Instrument Co., Ltd., 2.30 p.m.

Nov. 5.—B.G.C. Gas Salesmen's Circle (South-Western District). Meeting at Bromley's Cafe, Barnstaple, 1.15 p.m.

Nov. 6.—Eastern Association of Gas Engineers and Managers: Autumn Meeting, Waldorf Hotel, London, 1.45 p.m. Presidential Address of R. A. Weston, Norwich.

Nov. 6.—Joint Consultative Committee (Domestic Development Committee and S.B.G.I.). Gas Industry House, 2.30 p.m.

Nov. 8.—Institution of Chemical Engineers: "Modern Tar Distillation Plants," A. L. Curtis. College of Technology, Manchester, 3 p.m.

Nov. 10.—Women's Gas Council: Executive Committee, Gas Industry House, 1 p.m.

Nov. 11.—British Gas Council, Central Board, Gas Industry House, 2.30 p.m.

Nov. 11.—Institution of Chemical Engineers: "The Purification of Gases in Low Temperature Processes," T. A. Hall and G. G. Haselden. Apartments of the Geological Society, Burlington House, 5.30 p.m.

Nov. 11.—Midland Junior Gas Association: "Hot Water in the Service of Man," George Ewart.

Nov. 11.—Wales and Monmouthshire Junior Gas Association: Paper by S. Armitage.

Nov. 11.—B.G.C. Gas Salesmen's Circle (Midlands District): Chamber of Commerce, New Street, Birmingham, 2.30 p.m.

Nov. 12.—Industrial Gas Development Committee: Gas Industry House, 9.30 a.m.

Nov. 12.—Scottish Junior Gas Association (Eastern District): Visit to the Gothic Works of Messrs. R. & A. Main, Ltd., Falkirk.

Nov. 12.—Manchester District Junior Association of Gas Engineers: Visit to the Chesterfield Works of the Bryan Donkin Company.

Nov. 12.—B.G.C. Domestic Development Committee, Gas Industry House, 2.30 p.m.

Nov. 12.—Scottish Junior Gas Association: Visit to Gothic Works of R. and A. Main, Ltd., Falkirk.

Nov. 13.—Technical Sub-Committee (Domestic Development Committee), Gas Industry House, 10.30 a.m.

Nov. 19.—Eastern Junior Gas Association: Visit to Shredded Wheat Co., and Murphy Radio, Welwyn Garden City, 1 p.m.

LONDON AND COUNTIES COKE ASSOCIATION

THE Annual General Meeting of the Association was held at Grosvenor House, London, on Oct. 20, Mr. FRANK H. JONES (President) in the Chair.

The **President** proposed the adoption of the annual report and accounts.

Col. **H. C. Smith** (Chairman of the Central Committee), seconding the motion, said that in view of the growing activities and responsibilities of the Association, the Central Committee felt that consideration should be given to the question of the incorporation of the Association. It would be remembered that the Association started in 1931 and for a few years ran on agreements which were renewed from year to year. This was followed by a three-year agreement period, which was later succeeded by two five-year terms. No scheme was ready yet, but the question of incorporation was being discussed with the Association's solicitors, and it might be necessary at a later stage to call a special meeting.

Prior to the war the Association had evolved schedules of minimum prices and had entered into other price arrangements to which all producers and distributors were parties. Amendments to these arrangements were made each year at the County Price Reviews. With the outbreak of war this Association, together with the National Federation, gave an assurance to the Government that prices of coke would not be increased to consumers without Government sanction. As this Association had made satisfactory arrangements for fixing prices, the Government adopted these schedules of prices, which then became maximum prices.

After the termination of the war, it became obvious that conditions governing the marketing of coke should be reviewed and careful consideration was given to the report of the General Committee of the National Federation of Gas Coke Associations on future coke development, and a committee was appointed consisting of the coke advisers, who were asked to make recommendations.

This Committee in their report to the Central Committee made suggestions concerning methods of evaluating coke in comparison with other competitive fuels, proposals for the development and extension of the coke levy scheme to cover sales of coke made outside gas companies' own areas of supply, and also proposals for standardizing merchants' margins, standard extras for sized coke, uniform contract scales for merchants and consumers, and a standard extra per ton for coke in lots of under 5 cwt.

The Central Committee gave very careful consideration to the report of the Coke Advisers Committee, and after reference to the County Committees approved in principle the recommendations made, and decided to implement at once those recommendations dealing with merchants' margins, standard extras for sized coke, uniform contract scales for merchants and consumers, and a standard extra per ton for deliveries of lots of under 5 cwt., on the understanding that gas undertakings were not to be asked to bear out of their own revenue any increase in cost involved. The Ministry of Fuel and Power agreed to the proposals for increased margins, &c., which were developed on the basis of maintaining and not of increasing producers' revenue from coke, any additional cost required being added to the selling price. The ascertainment of the coke revenue position in each producer's area required the collection of considerable data, and the Committee were grateful to members for filling up the necessary forms so readily, with the result that it was possible to bring the agreement into force on July 1, with the exception of one area in which it has operated from Oct. 1. While they had not by any means reached finality, they felt that the price position had been tidied up considerably, and they now had a very good foundation on which to build in the future.

Rise in Prices

The Committee were very concerned at the high level which has been reached by coke prices. Between Sept. 15 and Oct. 1 coke prices in the Association's area were increased by sanction of the Ministry of Fuel and Power by 8s. 4d. per ton. Even this increase, however, was not enough to meet in all cases the increase in cost to producers of 4s. in the pithead price of coal and 24% in railway rates, but was justified as being approximately the increase applied to domestic coal.

The new price arrangements had been welcomed by the coke distributors, who had for some time complained that the margins in the selling price of coke were not satisfactory. He was sure that they felt the improvement in margins provided a practical demonstration of their desire to recognize them as an integral part of their organization. They were only sorry that at the present time they were getting very much less coke than they would like; they were doing everything they could to see that they got their fair share.

The coke supply position was, of course, most unsatisfactory. Owing to a shortage of gas coal and to the manufacture of the maximum quantity of water gas on instructions from the Ministry of Fuel and Power, the quantity of coke available for sale had been considerably reduced, while at the same time the demand had increased due, to a large extent, to the shortage of other solid fuels. As that increased demand was national, there was less coke available in other areas for importation into their area. For many years, the area of this Association had absorbed a considerable quantity of Midland gas coke which was not now available in anything like normal tonnages. Supplies of coke were being regulated on the instructions of the Ministry of Fuel and Power through Directorates set up throughout the country for that purpose. These Directorates had two main functions: first, to achieve equity as between the different solid fuels so as to prevent too great a demand being made on coke to the relief of other solid fuels; and secondly, to distribute equitably available coke among those consumers who should have it. There could be no question as to the need for coke programming; it would be impossible to have one solid fuel free when others were controlled.

Their area was an importing area. If they had to rely on their own production this year they could give their regular consumers only about 70% of their previous consumption; they would have nothing whatever available for new consumers. They hoped that by importing Midland gas coke and certain hard cokes, they should be able to add a further 10% to this quantity. Anything additional would have to come from sources which had not previously supplied their area.

Coke Programming

In programming everything was on a national basis. This often meant that a producer was asked to give up a quantity of coke for another area, although that coke could very well be used locally. He could not stress too strongly the necessity for gas undertakings honouring the allocations made by the Directorate both for their own direct business and for distributors. The responsibility for the distribution of coke during the present emergency rested with the Ministry of Fuel and Power, through the coke Directorates, and they were under an obligation to the Ministry to carry out their instructions in this matter and to ensure the most equitable distribution of coke, particularly during the coming winter. The responsibility which the Committee had accepted for programming involved considerable financial expenditure, but the Committee were satisfied that despite the cost, the Association should continue to make itself responsible for programming, rather than see the control over the distribution of their product pass into other hands.

The resignation of Mr. W. L. Boon as General Manager of the Association has been received with much regret. Mr. Boon had done much to foster the technical work of the Association, and they all wished him well in his new appointment, where he would be serving once more under the direction of the first Chairman of the Association. They extended a hearty welcome to Mr. J. O. Cooke, who had been appointed General Manager to succeed Mr. Boon, and under whose particular direction the technical work of the Association was continuing.

The Simon report recommended the largest practicable increase in the production of solid smokeless fuels of improved quality and grading suitable for domestic purposes. A survey had been carried out on the availability of the various sizes of gas coke in the Association's area. The result of this survey showed that 86% of the coke sold was supplied to the L.C.C.A. standard sizes totalling just short of two million tons of broken coke and coke nuts suitable for domestic purposes. While this was a considerable tonnage it was, of course, by no means sufficient to satisfy the potential demand.

A comprehensive investigation was being made by the Technical Committee into the whole question of coke preparation, including cutting, sizing, screening, handling, and storage. This investigation had already shown the need for certain basic information, particularly in regard to the question of coke cutting, and was being carried out in collaboration with the Gas Research Board.

A development during the year had been the entry of the Ministry of Fuel and Power into the field of testing and approving of domestic solid fuel burning appliances. Present Government policy was to require that, subject to availability, solid fuel burning appliances for installation in low income group houses should be equally capable of burning coke and coal. The Ministry was acting on behalf of housing authorities as the approving authority, and was having type tests carried out on appliances before approval was given to them. The Appliances Committee of the National Federation of Gas Coke Associations was co-operating actively in this work. The Ministry had also asked the Federation to assist in carrying out field tests on domestic appliances.

Colonel Smith then expressed his regret at the retirement of Dr. E. V. Evans and Mr. Colwell, paying tribute to their work for the Central and Executive Committees.

The report and accounts were adopted.

Mr. W. K. **Hutchison** (London) then proposed the re-election of Mr. Frank H. Jones as President for the coming year.

The proposal was seconded by Mr. **J. Hunter Rioch** (Cambridge), and the motion, which was carried with enthusiasm, was acknowledged by the President.

The Auditors, Messrs. Cash, Stone and Company, were re-elected and thanked for their services during the past year.

On the proposition of Col. **H. C. Smith,** a vote of thanks was accorded to Mr. J. O. Cooke and Miss Wooster, the General Secretary, and her staff. The tribute was acknowledged by Mr. **Cooke** and Miss **Wooster.**

Luncheon Speeches

Some 200 guests attended the luncheon preceding the meeting at Grosvenor House, at which Mr. FRANK H. JONES presided. The principal guest was Lord Hyndley, Chairman of the National Coal Board.

Dr. **Harold Hartley** said his first thought on receiving the invitation to propose the toast of the London and Counties Coke Association was that he had been honoured with a very pleasant task. Second thoughts influenced by the expectation of a Governmental announcement of the year's programme of legislation raised the question as to whether he should be participating in the start of the obsequies of this Coke Association. Ought he at the outset as an indication of respect to reverse the ceremonial greeting of the gladiator and say "You who are about to die—I salute you"? Was this lunch really an "eight o'clock breakfast"? Lest it be so, he would recall something of the story of this Association. The British carbonizing industry owed much to those who in its earlier days, having the vision to realize the possibilities of the process of carbonizing coal, were gifted with the individuality and drive to enable them to take effective action. Some felt that the continued prosperity of the nation was dependent on the cultivation of the attitude of mind which inspired such men; holding that competition spurred to greater effort and that were competition eliminated entirely, the result would be disastrous. At the same time the experience of our industrial development had convinced the majority of people that some co-operative effort was really essential. By such means individual experiences were shared by all.

Anyone wishing to criticize the *laissez-faire* attitude of mind could point to the experience in the past of the solid fuel appliance industry to justify the point of view. It would be known to most of those present that competition in the production of such apparatus had been pushed to the stage when it became no longer profitable to undertake development work. In consequence, stagnation resulted. Much of the criticism advanced in recent years concerning the results of the domestic use of the bituminous coals could be traced to the effects of this unbridled competition.

It was fortunate that during the period in which the development of domestic coke was most rapid, those responsible for its manufacture, distribution, and use did not view one another merely as competitors, and it would have been surprising if there had not come into existence such a body as the London and Counties Coke Association. The three objects in view in founding the Association some 16 years ago were: (1) to promote the use of coke as a fuel for domestic and industrial heating purposes; (2) to improve the standard of quality and the sizing of coke; (3) to co-ordinate and regulate the price of coke within its area of operation. Without (3) little could have been done to attain the objects (1) and (2), while, on the other hand, had the objects (1) and (2) not been attained, the value of the commodity would have suffered.

Immediately after the foundation of the Association, a Technical Committee was brought into being, and it was to no small extent a consequence of their activities that coke as a fuel was now so much appreciated in the domestic sphere. It was a fact that the technician could attain higher thermal efficiencies when employing a smokeless fuel in simple types of apparatus than was possible with solid fuels rich in volatile matter, and in the early days of the development of the necessary appliances, and in the expansion of the use of coke, this fact was of appreciable significance. Had the technicians, however, been content to rest on the advantages which result from the composition of the material itself, they would have deserved little in the way of congratulation by their fellows.

Last year the total consumption of coke in the area with which the London Coke and Counties Association was concerned amounted to 4½ million tons, 3.6 million tons having been manufactured in the area itself in the same period, the remainder being imported from other parts of the country. It was in part the shortage of fuel which prevented the Association from concentrating to the extent which should be possible on the domestic market and taking full advantage at once of the recommendations of the Simon Report. Were coal and coke available as exchange counters in the export market to-day, they would probably prove even more valuable than dollars. Many countries which had closed their doors to our manufactured products would amend their outlook if we had fuel to export.

While it was probable that in a few years time appliances would be available for domestic use capable of yielding overall efficiencies of some 65% with smokeless burning with bituminous coals, as, of course, also with coke, they could not, however, play much part in our fuel economy for some years to come. With the apparatus in use to-day, one of the best means of effecting a saving in coal in the domestic field was by extending the use of gas or coke wherever feasible at the expense of coal. An increase in the amount of coal carbonized in place of coal burnt in the home—yes, and still in many industrial processes—would be as valuable as additional coal won by the miners. By using gas and coke selectively for heat generation instead of coal where it was used wastefully to-day, our chances of collecting fuel for export would be increased. Certainly the wasteful use of the high potential energy electricity for satisfying low potential heat needs should be curtailed.

This Association had played a by no means insignificant part in conserving our fuel resources, and whatever its future, any national fuel policy derived objectively must envisage the continuation of an organization striving to further the aims which had determined its activities. By its structure it had the authority, and it had in fact used that authority to guide all branches of the Gas/Coke Industry. The coke supply industry was now at least as well informed as any of its potential competitors as to the capabilities and best spheres for utilization of the fuel.

Pooled Knowledge

He would suggest for the consideration of the Council of the Association the desirability of giving early thought, if it had not done so already, to the publication of its considered opinion as to the needs of the future, emphasizing especially the order of priority. For this work it had unrivalled experience of the product it sponsors. Sooner or later, and the sooner the better, a national fuel policy should be thrashed out. To attain this ideal there ought to be a pooling of experience and knowledge.

It would be still more useful if the representatives of the three sections, the Coal Board, the Gas Industry, and the electrical industry directly concerned with fuel utilization, were to get together and decide on the basis of facts well known in their experience how the fuel loads can best be handled in the national interest.

The PEP Group had collated and analyzed objectively a mass of data in their latest report, "The British Fuel and Power Industries," but there was need for an agreed statement with the authority which such co-operative action would give it.

It was common knowledge that the Association has for a number of years been extremely well managed, but it would be agreed that no management could succeed unless the right spirit was created and maintained among all concerned. The spirit permeating an organization came from the top, and the Association had, in the 16 years of its existence, been fortunate in having at the head men of foresight, with a good psychological understanding of the reactions of their fellows. It was for this reason especially that he felt no praise of the Coke Association, however adequate in itself, would be justifiable were it not extended most sincerely to the head of the organization.

Replying briefly, the **President** expressed their thanks to Dr. Hartley for the sentiments he had expressed and to all their guests. The Association had been in existence for 16 years, but looking round him he could see only three or four of the original number. He had not been the first President, that honour had gone to Dr. Carpenter. Certain names stood out in the history of coke, and pride of place should go to Robert Foot, Lord Hyndley, and Sir David Milne Watson. He had been asked "Is this the swan song of the London and Counties Coke Association?" That he could not say, but the powers that be had to produce coke for public use, and if they did not make use of their 16 years of experience, they would indeed be unwise.

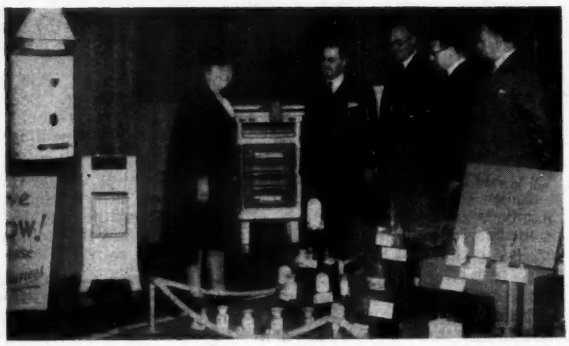
The toast of "The Guests" was in the hands of the **Chairman,** Colonel H. C. Smith, who described it as a most pleasurable task. They had always held this luncheon at difficult times: last year a strike of hotel staff had prevented their knowing until the previous day whether the luncheon could be held, and this year the Government had taken a dislike to their having their lunch together. Next year they planned to have their meeting in Jersey! Dr. Hartley had suggested that they might be attending the obsequies of the Coke Association—he could only remark that they looked very unlike corpses to him; whether this was a preliminary funeral he could not say. He expressed his pleasure at Dr. Hartley's accession to the position of President of the Institution of Gas Engineers. Fifteen years ago he formed one of a small number of rebels who wished to admit as members engineering contractors. He had stuck to his guns, and to-day Dr. Hartley was the first of that profession to reach the rank of President.

He was sorry Mr. Shinwell was not present; unfortunately he had another important engagement. Mr. Shinwell had described them as the third leg of the tripod—naturally the third leg had to prop up the other two. He had been translated to another sphere, where he had been welcomed by a strike, and it was unpleasant to contemplate that if he had to fight a major battle, the men might refuse to fire more than a certain number of rounds or march more than a certain number of miles. They had a new Minister and they were sorry he

was unable to attend. However, they wished to assure him of their support and it was his pleasure to couple his name with Lord Hyndley's and the other guests.

Lord **Hyndley**, responding, commenced by expressing his thanks to the Association for their hospitality. When he was asked to come and respond to Colonel Smith's toast, the first move was to read the London and Counties Coke Association Annual Report, and his first reaction was one of pleasure at seeing that Mr. Frank H. Jones was still President. He recalled that many years ago he had been present at the Association's first birthday party.

Dr. Hartley was right when he said there was a great shortage of fuel to-day. The week before last they had mined over four million tons of coal, but it was not all top mined. They had great hopes of touching the four million mark with top mined coal before many weeks were past. Unfortunately men were still on strike; at 12 p.m. that day there were 11 pits out in Scotland. They had, however, every type of machinery for dealing with every dispute to-day through the Consultative Council, the Area Council, and other bodies. He considered they had performed a great feat in amassing their present stocks for the winter and, if the weather experts were right in saying it would not be so severe, he hoped for a better winter than last. The National Coal Board was much criticized, but he could not say more than that they were doing their best.



Sir Harold Mackintosh, D.L., J.P., was among the many visitors to the stand of the City of Leeds Gas Department at the recent "Silver Lining" Exhibition, where "On Silent Service" and "Manufacture of Gas" were included in the regular film shows.

NEW BABCOCK AND WILCOX FILM

The film "Steam" which was issued some years ago by Messrs. Babcock & Wilcox, Ltd., must be one of the most popular technical films on an engineering subject in this country. It has been shown to a wide variety of audiences and has had wide use as an educational medium. Encouraged by its success, the same firm has now issued another film of a rather more specialized nature entitled "Combustion and the Chain Grate Stoker."

After an introduction showing coal coming from the pit head and being delivered at a power station, the commentary refers to the calorific value of the coal as a basis for calculation of boiler efficiency. The film then describes, with the aid of animated diagrams, how the quantity of heat, represented by this calorific value, is liberated when a pound of coal is burnt, and draws a distinction between the theoretical quantity of air required for complete combustion and that required in practice. It is further shown that, to obtain the optimum operating efficiency, a balance has to be struck between maximum heat liberation in the furnace and minimum chimney loss, and curves representing the various boiler losses are integrated and then inverted to give the efficiency curve.

The next sequence—photographed in actual boiler plants—deals with the practical operation of water tube boiler furnaces and a natural draught chain grate stoker is used to illustrate the construction and operation of a typical unit. The development of this simple type to a modern balanced draught installation is shown by diagram build-up, and actual shots inside the furnace illustrate the various combustion conditions described in the commentary. A short sequence shows the application of the chain grate to shell type boilers.

After the general discussion of the main combustion problems met with in the average boilerhouse and the means available for solving them, the picture ends with shots of a combustion engineer at work calculating the efficiency of his plant. Speaking directly to the audience he emphasizes the importance of efficient operation in order to save coal.

This film, which is available free of charge and takes approximately 25 minutes to show, is available in either 35 or 16 mm. sizes. However, the 16 mm. size necessitates projectors able to accommodate a 1,600 ft. spool—*i.e.*, a spool 14 in. in diameter.

GAS-WORKS BATHING FACILITIES

Bathing and changing amenities like those provided at the pithead for colliery workers are to be provided by Coventry Corporation's Gas Committee, who, after considering the proposal for some time, recently visited Comrie Colliery, Fifeshire, at the suggestion of the National Coal Board. A leading part has been played in this matter by the Chairman of the Gas Committee, Alderman J. Howat, who is himself a deputy at a Coventry colliery.

The pithead baths at Comrie Colliery are regarded as the most advanced in design in Britain. They were installed in 1940 at a cost of £42,000. Coventry Corporation's Gas-Works baths are to be designed on similar lines by the City Architect, except that they will provide for simultaneous use by 300 men instead of 800 as at Comrie Colliery. Despite the reduced size, the increases in building costs are expected to result in the expenditure on the Coventry scheme amounting to £40,000. While expecting Government approval of the scheme, it is feared that its execution will be held up under the proposals for the restriction of capital works.

The arrangements will enable men finishing work to take off their working clothes, place them in a locker, proceed to their bath, and then on to the other end of the building to another set of lockers containing their ordinary clothing. They will thus be able to leave work already prepared to follow any activity they may desire.

T. I. D. U.

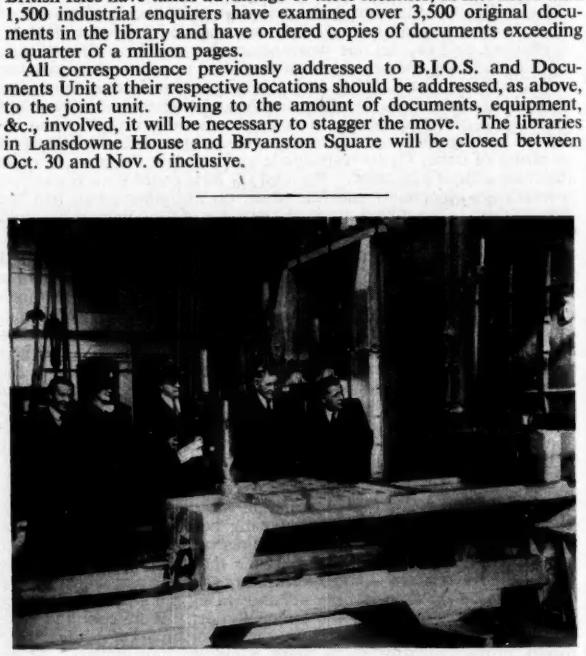
Hitherto enquiries about German and Japanese reports in the B.I.O.S. series have been directed to B.I.O.S. at 32-37, Bryanston Square, W.1, and applications to examine original German documents have been addressed to Documents Unit, German Division, Board of Trade, Lansdowne House, Berkeley Square, W.1.

With a view to centralizing the work and offering an improved service to industry on both reports and documents, these two units are being integrated as from Nov. 3, and will be known as: Technical Information and Documents Unit, German Division, Board of Trade, 40, Cadogan Square, S.W.1.

The new unit puts at the disposal of British industry the fruits of Allied investigation in over 30,000 German factories and research centres since the war. The library holds reports in English as well as technical drawings and copies of original documents covering the whole range of German industrial processes. Indexes are available for both documents and reports, and the unit includes a small technical staff to assist enquirers with selection and interpretation of the material assembled by Allied investigating teams including over 6,000 technical men from British factories.

A reading room is provided at Cadogan Square for detailed study of selected material and facilities exist for supplying copies of original documents to enquirers at a small charge. Firms in all parts of the British Isles have taken advantage of these facilities, in fact more than 1,500 industrial enquirers have examined over 3,500 original documents in the library and have ordered copies of documents exceeding a quarter of a million pages.

All correspondence previously addressed to B.I.O.S. and Documents Unit at their respective locations should be addressed, as above, to the joint unit. Owing to the amount of documents, equipment, &c., involved, it will be necessary to stagger the move. The libraries in Lansdowne House and Bryanston Square will be closed between Oct. 30 and Nov. 6 inclusive.



Our photograph was taken during the visit of the Gas Committee to the industrial heat treatment plant operated by the Coventry Gas Department, described on p. 204 *of last week's* "GAS JOURNAL." *Mr. J. E. Wakeford, Engineer and Manager, is on the extreme right.*

THE BRITISH FUEL AND POWER INDUSTRIES*

Before the war PEP (Political and Economic Planning) issued reports on Coal (1936), Electricity Supply (1936), and Gas (1939). Last week PEP issued a fourth Report reviewing the fuel and power situation as a whole. Its 400 pages, the work of a group of leading experts in the main industries covered, contain an impartial discussion of the organization of all types of fuel production and of problems of marketing and utilization. The new Report does not recapitulate the arguments for and against nationalization of the major industries, though it insists that changes in ownership and organization can be justified only if they assist in solving technical problems. It regards nationalization as an all but accomplished fact and discusses the co-ordination of the industries under a national fuel policy. Below we give a summary, taken from the Report, of the conclusions reached.

Primary Resources

1. It is estimated that on the basis of net useful therms supplied, coal accounted for over 90% of the total British fuel consumption in 1945, imported petroleum products (including motor spirit) for about 9%, and hydro-electric power and oil from indigenous petroleum and shale together for well under 1%. Apart from the possibilities inherent in the large-scale development of atomic energy, no great change in these proportions can be looked for except as the result of a substantial increase in the imports of petroleum products at the expense of the country's balance of payments.

2. Although small but useful contributions to the country's fuel balance may be made through further development of hydro-electric and possibly tidal power, and through fuller utilization of certain secondary fuels, the fuel and power requirements of the country can therefore only be adequately met through an increase in coal production coupled with the elimination of waste in its utilization or through the development of atomic energy.

3. While recent surveys of coal resources reveal no grounds for anxiety regarding the adequacy of total supplies or of particular types of coal over the next 100 years, total proved reserves have been shown to be very much less than was estimated 40 years ago. Moreover, certain coalfields show signs of early exhaustion. It is important that exploratory work on new coalfields should be pushed ahead not only with the object of increasing proved reserves of coal, but also because of the influence which such coalfields should exert on regional development and industrial planning.

4. If the coal industry is to continue to pay high wages without further inflating manufacturing costs in the principal coal-consuming industries, all possible means must be adopted to increase output per manshift. Mechanization and, more particularly, improved loading and haulage methods will have to be introduced wherever they are practicable, and production must be concentrated so far as possible in pits suitable for mechanization.

5. Mechanization alone will not solve the problems of the industry, and it is essential that provision should be made for training an adequate number of highly competent mine managers.

6. Output per manshift—and hence cost per ton of coal produced—varies widely from one district to another and from pit to pit within particular districts. While in many high-cost pits is should be possible to increase productivity, this is not always the case, and it will be necessary to ensure that as high a proportion as possible of the total output is obtained from the low-cost pits. It will probably be necessary to continue for some years a system analogous to that operated under the Coal Charges Account, whereby high-cost producers receive financial assistance from the proceeds of a levy on the total tonnage of coal raised. This should not, however, be allowed to result in high-cost pits being kept in operation once the total tonnage required can be obtained from low-cost producers. The Reid Report has already made proposals along these lines.

7. The successful implementation of these proposals will be to a large extent dependent on full provision being made for the social factors involved, such as transference and rehousing.

8. Safety regulations in mines should be reviewed in order to determine how far these act as a brake on technical progress, and, if so, whether any adjustment is possible without impairing the safety of the labour force.

9. Further investigation is required of the causes of absenteeism and low morale among a section of the miners. A detailed factual survey of this question should also throw considerable light on the measures necessary to encourage recruitment to the labour force and to raise output per manshift at least to the level prevailing before the war. The terms of reference of such a survey should not be restricted, and should include such problems as the methods of raising and collecting taxation. While the amount of money to be raised by the Exchequer is outside the province of the fuel and power industries, the methods of raising it are not.

10. Hydro-electric development in Scotland is proceeding actively under the auspices of the North of Scotland Hydro-Electric Board, and further developments are pending in North Wales. Full development of the available hydro-electric resources would be equivalent to a saving of about 6 million tons of coal per annum, but some of these resources may be required for water supply.

11. The potential output of the Severn Barrage is equivalent to about 1 million tons of coal per annum, but the Barrage could not make any contribution to the fuel and power supplies of the country within about seven years. Since there is a limit to the number of large capital projects which can be undertaken simultaneously, the heavy expenditure of capital and labour required would probably be better devoted to re-organization of the coal industry and the development of new mines, though the position would be altered if the onset of a slump should justify the launching of an extensive public works programme.

12. A useful output of petroleum was obtained from Nottinghamshire during the war, but this was very small in relation to total fuel requirements. Production is continuing on a reduced scale and it is hoped that as a result of exploration elsewhere additional reserves may be found. It is improbable, however, that indigenous petroleum will yield any substantial addition to total fuel resources.

13. Other minor fuel resources cannot make any very substantial contribution to expanding total resources. Utilization of sewage gas should not, however, be overlooked where sewage disposal schemes are being planned. Similarly, there may be scope for further utilization of blast furnace gas, though much has been done in recent years to eliminate waste of this fuel.

14. It is not possible at present to estimate how soon atomic energy is likely to make a substantial contribution to fuel and power resources or to forecast methods by which it will be applied. On the basis of present knowledge it seems probable that atomic energy will first be utilized as a source of heat, producing steam or hot gases for use in the conventional type of power generating equipment. It seems probable that the generating units will necessarily be large and complex owing to the need for completely automatic operation, involving heavy capital expenditure. Apart, therefore, from the time required to solve outstanding technical problems, a considerable period is likely to be necessary for the provision of the means of utilizing atomic energy. Nevertheless, as stated above, this represents the only important alternative to coal as a source of fuel and power in this country, a fact which justifies the high priority afforded to atomic energy development.

Secondary Resources

15. With the rapid growth of electricity generation the efficient use of waste heat from power stations represents one of the most important potential contributions to conservation of the country's fuel resources. There is scope for greater development of combined power and heating plants, both in individual factories and through the erection of combined plants to supply a number of factories in the same locality. Arrangements might be made to interconnect such combined power and heating plants with the Grid.

16. The extensive development of district heating to utilize waste heat from existing power stations is economically impracticable, both on account of the resulting reduction in generating capacity and the fact that the location of many existing power stations is unsuitable for the development of efficient district heating schemes. The possibility of district heating should, however, be taken into account in deciding the location of new power stations. In particular, the development of new towns and the rebuilding of badly blitzed towns provides an opportunity to gain practical experience with district heating under the conditions prevailing in this country.

17. The location of power stations at the pithead has advantages on the score of ease and cheapness of coal supply. On the other hand, transmission costs would be higher and the possibilities of using the waste heat from pithead power stations are in most cases limited; the economies to be achieved from pithead location would probably be more than offset by locating the station in or near a large centre of population where transmission losses are reduced to a minimum and full use can be made of the waste heat. Moreover, at many collieries the supply of cooling water would be inadequate.

18. In the United States of America an experimental power station is being erected at the pithead to run on gas obtained by the underground gasification of coal. This may provide an economic method of utilizing seams of coal which are not economic to work by traditional mining methods.

19. There is scope for closer co-operation between the gas and coke oven industries in order to permit the latter to guarantee both the quality and quantity of gas supplied to the former. In return, the Gas Industry might further assist the coke oven industry in the disposal of oven coke if excess supplies of the latter should become available.

20. Steps should be taken to implement the recommendations of the Distribution of Gas Engineers' Committee of Enquiry on Sulphur

* "The British Fuel and Power Industries," published by PEP, 406 pp. with Index, clothbound, price 30s. Obtainable from PEP, 16, Queen Anne's Gate, London, S.W.1.

Removal and of the Heyworth Committee that the sulphur content of town gas should in all cases be reduced to, at most, 10 grains per 100 cu.ft. This would extend the range of application for gas—*e.g.*, by encouraging its wider use for background heating and reducing maintenance costs on equipment.

21. Before the war there was considerable controversy as to the merits of increasing petroleum refinery capacity in this country. On balance, the consensus of opinion in the industry was opposed to any substantial increase. The wartime development of the Middle East petroleum resources, however, made it essential that new refineries should be built either in this country or in the Middle East. Among the advantages of home refining may be mentioned the building up of a body of trained personnel in a relatively neglected field, the development of a refinery plant industry which may well in the long run make a substantial contribution to the export trade, the establishment of a chemical industry based on petroleum, and a saving in foreign exchange through the purchase of crude in place of refined products. On the other hand, this is a question which has important international aspects, since the principal countries producing crude oil are increasingly opposed to the export of crude and insist that part at least of the oil shall be refined in the country of origin. In many cases, however, these countries cannot refine economically, since there is no market for the refinery gases. The important expansion of the Anglo-American refinery at Fawley should provide valuable experience of a large-scale extension of petroleum refining in this country.

22. Apart from the possible discovery of additional reserves of petroleum, there is little scope for an increase in the domestic production of liquid fuels in the immediate future, since the coal shortage is likely to restrict developments in hydrogenation and low temperature carbonization. Before the war most low temperature carbonization processes were uneconomic, and the future of the process is dependent primarily on the market for a smokeless solid fuel selling at a price which is generally higher than that of household coal. In general, low temperature carbonization processes are less efficient and less economic than high temperature carbonization.

Marketing and Consumption

23. The exhaustion of the best low-ash seams, the increased adoption of mechanical means of coal winning, and the increasing mechanization of coal utilization all call for the more extensive preparation of coal for the market. Full co-operation is necessary between the National Coal Board, consumers, and manufacturers of coal-burning appliances to determine the minimum range of grades and sizes which should be produced. During and since the war, variations in the quality of coal supplied have caused many difficulties to consumers and been responsible for inefficient use of fuel. If it were possible to get greater certainty of supply of a uniform quality plant manufacturers could adapt their equipment accordingly.

24. The principal problem associated with an increase of coal cleaning is that of disposal of the fine coal produced, and additional research and development work is required as to the best means of utilizing these fines.

25. In view of the serious shortage of coal on the home market, exports have been restricted to very low levels since 1941. While in the long run it is debatable whether this country should export large quantities of a wasting asset such as coal, in the short term coal exports at the level prevailing before the war could make a substantial contribution to the country's balance of payments, and in view of the serious shortage of coal in the majority of European countries would probably be of incomparable value in strengthening the country's position in international politics and its ability to acquire goods and services which are in short supply. The output target should therefore be raised as soon as practicable to a level which will allow a margin for export.

26. In spite of considerable improvement in this respect since the war, there is urgent need for the collection and publication of more detailed statistics regarding the division of fuel and power consumption by industries and according to the principal purposes for which the various fuels are used. In particular, statistics are required for the division of industrial consumption of town gas and coke oven gas, electricity, and oil, and for the quantities of various fuels used for particular purposes—*e.g.*, furnace heating, space heating, boiler firing, and lighting. This is not merely a question of collecting the necessary figures, since owing to inadequate metering arrangements many industrial consumers do not themselves know the quantities of fuel consumed for different purposes.

27. While considerable improvements in efficiency of fuel usage have been achieved since the outbreak of war owing to the activities of the Fuel Efficiency Committees and the rise in the price of coal, much greater improvement is still possible. There is still considerable scope for improvement in operating technique and in the recovery and utilization of waste heat, but in many cases substantial capital expenditure is required for the provision of more efficient fuel-using plant.

28. It has been suggested that the price of coal should be very substantially increased in order to encourage economy in its use. If this were not to result in severely handicapping the export trade in all manufactured goods for which the fuel costs represent a substantial proportion of total manufacturing costs, it would be necessary to institute a system of export rebates, the determination of which would be extremely complicated. In addition, some method would have to be found to compensate domestic fuel consumers for the resulting increase in cost of living. Moreover, it is difficult to forecast what effect a substantial increase in price would have on consumption.

29. Domestic fuel consumption offers a particularly fruitful field for improvement in efficiency of fuel utilization. Since, however, the bulk of the population has not been able to afford adequate heat, this is likely to be reflected rather in an improved heat service to the consumer than in a reduction in the quantity of fuel used.

30. Solid fuel must continue to supply a large part of domestic fuel requirements, since gas and electricity cannot be stored in sufficient quantity to meet exceptional peak demands in cold weather; while, in addition, expansion of gas manufacturing or electricity generating capacity to permit any substantial reduction in the domestic consumption of solid fuel must take several years.

31. It is very important that in all new housing adequate attention should be paid to insulation of the structure of the house and the provision of efficient appliances.

32. In the iron and steel industries the principal developments likely to lead to reduction in fuel consumption are better geographical distribution of the industry, providing for further integration and the elimination of uneconomic units; increase in average size of blast furnaces; possibly radical improvement in and extended adoption of the basic Bessemer process; and an increase in the extent of hot metal utilization.

33. In the textile industries the outstanding feature is the extent to which power requirements are supplied by reciprocating steam engines driving line shafting. It is estimated that up to 50% of the total power consumption is mechanically applied, although there has been some improvement in recent years. Although before the war there was a steady rise in the proportion of power applied electrically, much remains to be done in this direction, particularly in the cotton industry. Having regard to the type of plant installed, fuel utilization in the textile industries was relatively efficient, but substantial economies could be achieved through electrification and the elimination of obsolete power plant. Considerable capital expenditure would, however, be involved.

34. Though detailed information is not available to show the importance of the industrial space heating load, it would appear that this is considerable. An examination of fuel consumption in the textile industries suggests that in cotton weaving space heating accounts for about 70% of the total fuel consumption and in worsted spinning for about 40%, together with some waste steam from power generation. Although these figures may be exceptional, the seasonal nature of industrial fuel consumption suggests that in most cases space heating accounts for a substantial proportion of total fuel consumption. This brings out the importance of attention to thermal insulation in the design and construction of factory buildings.

35. There is scope for a reduction in coal consumption by the railways through increased electrification, though the economics of railway electrification are, to a large extent, dependent on traffic density and physical conditions. High coal prices, however, which are likely to be a feature of the fuel situation for some years to come, tend to favour electrification.

Prices, Competition, and General Policy

36. In view of the steps already taken to nationalize the coal industry and the fact that the Government has announced its intention to nationalize the gas and electricity industries, this report is based on the assumption that within a comparatively short period all the major fuel industries of the country may be brought under national ownership.

37. While this will provide an opportunity for co-ordination of the fuel and power industries (for which there has long been an urgent need), it must be recognized that changes in ownership and organization of these industries can only be justified if they assist in solving the technical problems involved. The regrouping of production units —and in the case of gas and electricity, of distribution areas—which is possible under nationalization is an important first step towards the solution of these problems. To a large extent the problem is to secure through correct administration the application of available technical knowledge and experience: it should not be assumed that this will necessarily result from transfer of the fuel industries to national ownership.

38. On the other hand, the Coal Industry Nationalization Act suggests that the Government may have underestimated the political pressure which is likely to be brought to bear by sectional interests on a Minister to intervene in the day-to-day activities of the National Coal Board. While the Minister of Fuel and Power himself has stated that it is his intention to intervene only in matters of high policy and in the protection of the consumers' interest (if this should be necessary), he has the power to intervene on a much wider range of subjects. If nationalization is to succeed it is essential that the management of the fuel industries should be in the hands of men who have full experience of these industries, and that decisions should be taken on economic and technical rather than on political grounds

39. There is a serious shortage of trained fuel technologists, and steps should be taken to remedy this and to train fuel technologists with administrative abilities. Moreover, the knowledge of fuels on the part of the general public is very small, and some knowledge should be imparted in educational curricula, particularly as regards fuel utilization.

40. It is important that nationalization should not result in stifling competition between the different fuel industries. While unrestricted price competition has on a number of occasions led to undesirable results, administrative and technological competition has on the whole been of great benefit in stimulating the efficient use of fuel and in improving the service offered to consumers by fuel suppliers. While some control may be required to prevent the sale of particular fuels below cost, consumers should be left free to choose the fuel most suited to their requirements.

41. In order that the consumer's choice of fuel shall so far as possible coincide with the national interest as regards conservation of fuel resources and smoke abatement, close attention should be paid to the tariff structure adopted by the individual fuel industries. Subject to certain exceptions to cover promotional tariffs and the problem of the uneconomic consumer, tariffs should in all cases be closely related to the cost of production and supply. The right of electricity suppliers to make a minimum charge in order to meet the problem of the uneconomic consumers has been admitted, and a similar concession should be extended to the Gas Industry. Steps should also be taken to permit gas undertakings more readily to introduce block or two-part tariffs.

42. Since coal is the only important indigenous source of fuel and power, special importance attaches to the regulation of coal prices. The relative prices charged for the various grades and qualities of coal must exert a strong influence on the trend of fuel consumption and the rate of development, for example, of the gas and electricity industries. Much closer costing of the various grades and qualities of coal will, therefore, be necessary than has been the case in the past, when the prices of the various grades were determined largely by tradition and what they would fetch. To be satisfactory any new price structure should not, however, be too rigid, since it must always provide for new technical developments in the utilization of fuel which affect the relative value to consumers of various grades of coal.

43. Development of atomic energy must clearly exert a very strong influence on the future development of the fuel and power industries and, in particular, on capital investment in the fuel industries themselves and in fuel-using plant. If, for example, it were known that atomic energy would eventually be utilized for the generation of electricity and would result in a substantial cheapening of electricity supplies, it could be argued that electrical plant would be less likely to be rendered obsolete through the development of atomic energy than would plant utilizing other forms of fuel and power. This might be taken to justify encouragement of capital investment in the electrification of industry and transport at the expense of further development of other fuels. At present, owing to uncertainty as to the methods by which atomic energy is likely to be applied and as to costs, it is impossible to reach a definite conclusion on this point. Close attention should, however, be paid to the progress of atomic energy development, with a view to minimizing the possible resultant loss of capital assets through obsolescence.

THE GAS CHARGES ORDER, 1947

THE following is the text of the Gas Charges Order, 1947, dated Oct. 17, 1947, made by the Minister of Fuel and Power.

1.—(1) Save as provided in the following paragraphs of this Article, no undertaker shall, except under the authority of a permit, increase any price charged by him at the date of the coming into force of this Order in respect of any supply of gas.

(2) Subject to the provisions of paragraph (3) of this Article, and the next following Article, any such price may be increased by the proportionate amount of any net increase in the cost to the undertaker of production of the gas supplied due to any one or more of the following, that is to say:

(*a*) any increase in the delivered price of coal by reason of an increase in:

(i) the pithead price thereof of 4s. per ton on the first day of September, 1947;

(ii) the railway rate for carriage thereof taking effect on the first day of October in that year;

(*b*) any increase in the net cost to him of gas oil by reason of:

(i) an increase in the price thereof of 1½d. per gallon on Sept. 1;

(ii) the termination of any subsidy paid to him by the Minister on the oil used by him;

after making due allowance for any additional sums received by him:

(*c*) in respect of sales of coke by reason of:

(i) an increase in the price thereof of 6s. per ton on Sept. 15; and

(ii) any increase on the first day of October authorized by the Minister in the delivered or ex-works price thereof:

Provided that where any of the factors specified in sub-paragraphs (*a*) or (*b*) of this paragraph has been relied upon by any undertaker applying for a permit under Article 1 of the Gas Charges Order, 1942 (*a*), and any increase in price has thereupon been authorized, the part of that increased price appropriate to that factor shall be deducted from the proportionate amount calculated as aforesaid.

(3) Any undertaker who, by virtue of the preceding paragraph, increases the price charged by him in respect of any supply of gas shall forthwith give notice to the Minister of any such increase stating the amount thereof and the date on which it takes effect; and shall, in relation to every such increase, supply all such information, and supplementary information, as the Minister may at any time require.

(4) Nothing in this Article shall restrict any undertaker from increasing the price charged by him in respect of a supply of gas furnished:

(*a*) to any person in pursuance of a contract between the undertaker and that person the terms whereof provide for variation, as there specified, in the price charged for gas supplied by reference to the cost of coal to the undertaker or to the quantity of gas supplied during any period to that person, by any amount in accordance with that contract; or

(*b*) in any period to any person carrying on a factory (not being another undertaking), if, during the year immediately preceding that period, the quantity of gas so supplied for consumption in that factory was not less than 150,000 cu.ft., and if previous notice in writing of any proposed increase, and of the amount thereof, has been given to the Minister by the undertaker, by any amount, so however that the Minister may at any time direct that, in any such case as aforesaid, as from a specified date any specified undertaker shall not, except under the authority of a permit, increase the price charged by him in respect of the supply of gas to any specified person.

(5) A direction under sub-paragraph (*b*) of the last preceding paragraph may, notwithstanding anything contained therein, be given so as to apply to any class or description of undertakers or persons as aforesaid.

2.—(1) Where the price charged in respect of any supply of gas is increased by virtue of paragraph (2) of the preceding Article, and thereafter any of the increases specified in sub-paragraphs (*a*) or (*b*) of that paragraph is not maintained, or the allowance to be made under that paragraph is varied, and by reason of the net increase in the cost to the undertaker of production calculated as provided in the said paragraph is at any time less than at the date of the said increase in price, that undertaker shall, as soon as practicable, reduce the price charged by him in respect of that supply by an amount proportionate to the said reduction.

(2) The provisions of paragraph (3) of the said Article shall apply in relation to any reduction in price as they apply in relation to an increase therein.

3. Where any Act or instrument determining the functions of an undertaker prescribes any price with respect to any undertaking (being a public utility undertaking) as the maximum price which that undertaker may charge in respect of gas supplied by him, the obligations and limitations imposed by, or by virtue of, every such Act or instrument are, if not previously relaxed to the extent requisite for any increase by virtue of paragraph (2) of Article 1 of this Order in any price charged by that undertaker in respect of any supply of gas, hereby to that extent relaxed; but save as aforesaid nothing in this Order shall affect the maximum price prescribed for any undertaker by any applicable enactment or Order.

4.—(1) Any permit under this Order may be granted subject to such conditions as the Minister may deem necessary.

(2) Every such condition shall be complied with by every person, or by every person of the class or description, in whose favour the permit was granted; and the breach of any such condition shall be an offence against this Order.

(3) The Minister may vary or revoke any permit granted under this Order; and, if any such permit is revoked, the holder thereof shall forthwith deliver it up as directed by the Minister.

5. In this Order, and (unless the contrary intention appear) in every permit granted and direction given under the provisions thereof, the following expressions have the meanings hereby assigned to them respectively, that is to say:

"the Minister" means the Minister of Fuel and Power;

"permit" means a permit granted by or on behalf of the Minister;

"undertaker" means any person carrying on an undertaking;

"undertaking" means any undertaking (whether or not a public utility undertaking) involving the supply of gas to the public.

(*a*) S.R. & O. 1942 (No. 2628) II, p. 1726.

(*b*) S.R. & O. 1942 (No. 2629) II, p. 1728.

6.—(1) The Gas Charges Order, 1942 (*a*), is hereby revoked.

(2) Any permit granted or direction given under the provisions of the Gas Charges Order, 1942, effective at the date of the coming into force of this Order shall be deemed to have been granted or given under the corresponding provision of this Order; and shall have effect accordingly.

(3) The Gas (Maximum and Standard Prices) Order and General Direction, 1942 (*b*), shall have effect subject to the modification that in Article 1 thereof there shall be substituted for the reference to the Gas Charges Order, 1942, a reference to this Order.

7. This Order shall come into force on Nov. 1, 1947.

Explanatory Note

(This Note is not part of this Order, but is intended to indicate its general purport.)

1. This Order revokes, and re-enacts with an amendment, the Gas Charges Order, 1942, which prohibited increases in the price charged for gas except under a permit.

2. The amendment introduced allows an increase without a permit to cover any net increase in the cost to the undertaker of the production of gas due to increases in September and October, 1947, in the delivered price of coal and the price of gas oil, and to the termination of the subsidy on gas oil, after allowing for increases in the price of coke sold. All increases must be notified to the Minister.

3. Statutory limitations on the maximum price of gas are relaxed to the extent necessary for this increase.

4. If any of the factors involved ceases to apply, prices are to be correspondingly reduced as soon as practicable.

5. Nothing in the Order affects charges where either:

(*a*) a contract contains a sliding scale for prices based on the cost of coal or the quantity of gas supplied; or

(*b*) a factory consumes more than 150,000 cu.ft. of gas per annum.

(*a*) S.R. & O. 1942 (No. 2628) II, p. 1726.

WATSON HOUSE RESEARCH IN BRISTOL

At the Bristol City Museum there is an exhibition organized by the Department of Scientific and Industrial Research called "Building Good Houses." This primarily shows to the public methods of research used in the improvement of housing standards, and the Gas Light and Coke Company has a display called "Testing and Development of Gas Appliances," which shows some of the experiments carried out in their laboratories at Watson House.

Among the tests illustrated are that of testing for thermal efficiency of a boiling burner, B.S. 1250, the test for complete combustion, B.S. 717, a cooking quality test, the testing of water heaters (illustrated by a model), measuring the radiant output of a gas fire, the testing of gas fire refractory materials, a fire hazard test, the testing of pipe fittings, the quality of enamel, the working of small appliance governors, the quality of paint finishes, and testing the grill on a gas cooker.

The exhibition is designed to help the formulation of standards of comfort and efficiency in housing, and the Gas Light and Coke Company shows to the public the meticulous research undertaken to further this objective.

INDUSTRIAL GAS TURBINE COURSE

An industrial gas turbine course covering land, marine, and locomotive installations, at the National Gas Turbine Establishment's School at Ladywood Works, Lutterworth, starts on Nov. 10, and will last for three weeks.

The course is the second of its kind—the first having been held in June of this year—and is intended for engineers of graduate or equivalent standard. It will cover all aspects of gas turbine technology, including fluid and thermal dynamics, practical and theoretical testing procedure and analysis, and in addition to basic theory there will be specialist lectures on fuel technology, combustion, components, metallurgy, and allied subjects.

The contributory fee of £45 includes instruction and food and accommodation in the N.G.T.E. hostel at Lutterworth. The hostel is run along the lines of an officers' mess. The N.G.T.E. is the only centre in this country where instruction is given in all aspects of the gas turbine. For over two years, courses have been given in aircraft turbines and three industrial courses have also been held, two of them for foreigners. The foreign courses proved particularly successful and engineers from all parts of the world who participated in them are still keeping in touch with each other. Apart from their technical value, the courses serve as a great stimulus, providing opportunities for engineers of all kinds to get together and talk "shop." Altogether, over 600 engineers have passed through the school.

Engineers wishing to attend the course should apply to Power Jets (Research and Development), Ltd., 8, Hamilton Place, London, W.1, who provide a copy of the syllabus and other details.

HIRE PURCHASE AND CREDIT SALES

The Board of Trade, in consultation with the Central Price Regulation Committee, have made an Order* correcting three minor defects in the Hire Purchase and Credit Sale Agreements Order (S.R. & O. 1947 No. 1194). Besides amending the citation of the principal Order, the new Order amplifies the definition of "lawful retail cash price" (on which the permitted charge is calculated) so that in all cases it shall include Purchase Tax, and corrects the statement of the method of calculating the rebate on the service charge when the whole amount payable under the agreement is paid in less than two years.

* The Hire Purchase and Credit Sale Agreements (Maximum Prices and Charges (Amendment) Order 1947 (S.R. & O. 1947 No.2210), price 1d. through any bookseller or newsagent or direct from H.M. Stationery Office, Kingsway, London, W.C.2, and branches.

POWELL DUFFRYN, LTD.

The Annual General Meeting of Powell Duffryn, Ltd., was held in London on Oct. 22, Mr. EDMUND L. HANN, Chairman and Managing Director, presiding. The following is an extract of his statement which was circulated with the accounts:

Your Directors have pursued the policy which I referred to last year of expanding the Company's activities.

The business of Cory Brothers & Co., Ltd., in Egypt, which has been merged in that of Tractor and Engineering Company, S.A.E., is working smoothly and profitably.

The scope of the business of Guéret, Llewellyn, and Merrett, Ltd., is being widened. Its coal exporting departments, with their numerous overseas distributing subsidiaries, are ready to function as soon as coal is made available for supply. A new enterprise of this company is the development of an air service agency trading under the name of Powell Duffryn (Air), Ltd., managed by G.L.M. from their Cardiff office with branches at all important places at home and abroad.

I would now like to make particular reference to Stephenson Clarke, Ltd.—which has for many years contributed so largely to the prosperity of Powell Duffryn. Its business is the sale and distribution of coal in Great Britain.

Early in the new year Stephenson Clarke will receive in compensation for its fleet of wagons well over £3,000,000, but the Company will from Jan. 1 next lose its substantial income from the earnings of these wagons. The business of distribution and handling of coal will continue, as also will the ownership, management, and running of ships. Losses of tonnage through enemy action are gradually being made good and it is hoped in the next few years to restore fully the amount of tonnage owned in 1939. The Company, in association with other well-known shipowners, has extended its shipping interests through the formation of Coastwise Colliers, Ltd.

Cambrian Wagon Works, Ltd.—a branch of Stephenson Clarke—builders and repairers of all kinds of railway vehicles, has extended its works and added to its activities.

Maris Export and Trading Company, Ltd., the coal exporting subsidiary of Stephenson Clarke, although deprived of the opportunity of maintaining its trade in British coal, has functioned successfully in the products of other countries, thus retaining its valuable overseas connexions for the time when they too will be able to contribute to the restoration of the British coal export industry.

I have to report the appointment, as one of the Managing Directors of your Company, of Mr. Robert Foot, former Director-General of the B.B.C., well known as the Chairman of the Mining Association of Great Britain, and of great experience in the Gas Industry. Mr. Foot has been largely responsible for the foundation and development of one of our new subsidiaries, Powell Duffryn Technical Services, Ltd., of which he has been appointed the Chairman of the Board.

Powell Duffryn Technical Services was formed in March of this year to act as consultants in connexion with fuel production, distribution, and utilization. On the mining side it has been commissioned by the British Government, in conjuction with the Governments of the Colonies concerned, to carry out a full investigation into the coal resources of Nigeria, British North Borneo, and Sarawak. Our teams of mining engineers are already at work in all those Colonies.

In India and elsewhere we are also engaged in highly technical work for other interests, and Mr. Foot is now in Australia to discuss the possible use of our services in connexion with the further development of the valuable coal resources in the various States of the Dominion.

At home this Company is busily engaged on behalf of some of the largest industrial concerns in Britain in helping to promote greater efficiency and therefore greater economy in the use of fuel of all kinds.

The research organization, Delanium, Ltd., in which we were originally associated with De Le Rue Plastics and other interests, is now in our sole ownership under the title of Powell Duffryn Research Laboratories, Ltd., and last year acquired suitable premises at Battersea. It recently discovered an entirely new method of producing carbon which possesses great advantages over other methods now in use, as regards both the process of manufacture and the quality of the finished product. For commercial production we have acquired a factory at Hayes, Middlesex, and have promoted a new subsidiary company—Powell Duffryn Carbon Products, Ltd.—with a share capital of £500,000.

PUBLICATIONS RECEIVED

The latest copy of *Future*, the handsome product of Futura Publications, Ltd., contains an article of great interest to the Gas Industry. Entitled "No Argument About Gas?" this provocative article sets out to explain why the Industry is to be nationalized, what are to be the results of nationalization on the Industry, and how this change of ownership will affect the domestic and industrial consumers. To do this a series of involved diagrams are resorted to, showing by-products, hourly consumption in Greater London, gas made per head of population, ownership of undertakings and their size, and so on. Winding between charts and arrows is a neat precis of the present strength and weakness of the Industry, ending with a list of the advantages obtainable by regional grouping, national co-ordination, and public ownership. The feature is important in that the book will be circulated abroad, principally in America. Readers should note the effective British Gas Council advertisement in colour. Priced at 6s., the book, which is printed abroad and is most lavish in production, is normally available to subscribers only.

* * *

Conditions to-day are such that interest in heat insulation has grown steadily in importance in both industrial and domestic spheres. It is interesting therefore to peruse a new booklet published by Stillite Products, Ltd., entitled *Stillite Takes Shape*, which shows how Stillite is processed in different forms to meet industrial requirements. This material is a refined mineral wool, insulant, consisting of springy fibres of great resilience and lightness with an ultimate heat resistance of 2,372° F. The many illustrations and impressive figures quoted in this book make it unusually interesting and attractive, and special mention should be made of the use of Stillite in the manufacture of gas cookers and refrigerators. It is obtainable from the makers upon application.

* * *

Gas Governors, a neat booklet published by Evered & Co., Ltd., sets out to answer three questions: What are governors for? How do they work? And, how should they be applied? The book is divided into three sections, each answering a question, and a fourth section on how to order governors is added. The explanations are briefly put but nevertheless contain all the facts and figures necessary, and there should be many—students in particular—who will find these lucid descriptions and hints of value. Apart from the publisher's name, the book is free of advertising matter, and a further attraction is that it is contained in a neat wallet.

GAS UNDERTAKINGS' RESULTS

Dundee Gas Department.—Gas manufactured for the year ended May 15 reached a new record figure with a make of 2,283,878,670 cu.ft., an increase of 130,332,247 cu.ft. over last year. Income from gas sales amounted to £410,357; gas sold and accounted for amounted to 2,137,972,100 cu.ft., an increase of 87,891,800 cu.ft. The unaccounted figure rose from 4.80% to 6.38%, representing an increase of 42,440,447 cu.ft. In his report, Mr. W. S. Johnston, Engineer and Manager, states that the reconstruction of "C" bench of retorts continued throughout the year, at a cost of £32,890, £15,357 of which was a charge against the year's revenue, the remainder being met out of capital. It is estimated the reconstruction will be completed about December of this year, and will increase the carbonizing capacity by approximately 1,300,000 cu.ft. per day.

Bradford.—Mr. G. E. Currier Engineer, and Manager, records in his report for the year ended Mar. 31 a gross profit of £125,553 and a net profit of £45,971; the net profit for the preceding year was £26,992. Gas sales, at 13,364,674 therms, showed an increase of 16.26% and receipts from tar, at £44,262, were up by £11,278. Mr. Currier described the financial result as extremely satisfactory considering that the past year had been one of continuous anxiety due to shortage of coal, failure of the contractors to complete the third carburetted water gas plant, the "alarming" increase in coke sales. However, the rebuilding of the B2 bench was completed in 1946 in time for the big winter load, and the re-building of the B1 bench, the largest bench, is progressing well. With regard to the financial position at the end of the current year, Mr. Currier says it is difficult to attempt any forecast, but points out the further expenses to the undertaking due to increased wages, railways rates, and the Council's holiday scheme for workpeople.

GAS STOCKS AND SHARES

The market opened quietly early in the week, this being accounted for by the awaiting of the King's Speech on the Tuesday and the influence of fresh industrial disputes, notably in the Scottish coalfields. Following the Speech trading was still restricted, but renewed activity soon made itself felt and the tone generally was firm. British funds led the way and provided stimulation, and encouragement was derived from the increased coal stocks and less adverse trade balance. Actual rises in price were not large but they were widespread. The number of dealings showed only a small drop during the week, while the level of Ordinary shares showed a rise of 2.5 The Government index, at 114.34, showed a rise of 0.34. Transactions in gas shares was higher than in the previous week, rises and falls being as follows:

OFFICIAL LIST

Associated Gas, 4 p.c. red. cum. pref.	19	21	+ 6d.
Bournemouth, 4 p.c. pref.	97	102	+ 2
Brighton, 5 p.c. perp. deb.	110	115	+ 2
Chester United, ord.	105	110	— 5
Croydon, 5 p.c. perp. deb.	110	115	+ 2
East Surrey, 5 p.c. irred. deb.	110	115	+ 2
Gas Light & Coke, ord.	20/3	21/3	— 9d.
Gas Light, 3 p.c. con. deb.	83	88	+ 1
Do. 5 p.c. deb.	101	106	+ 1
Imperial Continental, cap.	104	109	— 1
Lea Bridge Co., cons. ord.	125	135	— 15
Newport, 5 p.c. perp. deb.	115	120	— 13
Plymouth, 5 p.c. deb. perp.	110	115	+ 5
Primitiva Holdings, Ltd., ord.	10/-	12/-	— 6d.
South Metropolitan, ord.	89	92	+ 2
Do. 6 p.c. irred. pref.	113	115	+ 3
South Suburban, 5 p.c. perp. deb.	110	115	+ 2
Sunderland, ord.	118	123	+ 5
Tottenham, 4 p.c. perp. deb.	95	100	— 2
Uxbridge, 5 p.c. perp. deb.	110	115	+ 2
Wandsworth, cons.	110	115	+ 2
Do. 5 p.c. irred. deb.	97	102	— 8

GAS PRODUCTS PRICES

The London Market

October 24

There are no changes to report in the prices of coal tar products.

The Provinces

October 24

Average prices for gas-works products this week are: Pitch, 75s. per ton; toluole, naked, North, 90's, 2s. 4d. to 2s. 6¾d. per gall.; pure, 3s. 2¼d. Prices for carbolic acid 60's anthracene, creosote oil (hydrogenation), coal tar oils (timber preservation, &c.) and strained anthracene oil are controlled by Government Orders. Prices for road tar are increased by one penny per gall. by S. R. & O. 1947, 177.

Scotland

October 25

Steady throughput is maintained in all products. Refined tar.* Yield to the distiller is 6d. per gall. ex works, naked. Creosote oil. Timber preserving quality* 5½d. to 6½d. per gall.; hydrogenation oil* 5⅞d. per gall.; low gravity or virgin oil† 7¼d. to 7½d. per gall.; benzol absorbing oil 6½d. to 8d. per gall. Refined cresylic acid is 3s. 6d. to 4s. 6d. per gall. ex works, naked, according to quality. Crude naphtha† 8d. to 10d. per gall. Solvent naphtha.* Basic maximum prices delivered in bulk 90/160 grade, 2s. 10d. per gall., and 90/190 heavy naphtha, unrectified, 2s. 0½d. per gall.: rectified, 2s. 4d. per gall. Pyridine.† 90/160 grade 15s. per gall., and 90/140 grade 17s. per gall.

* Price controlled. † Uncontrolled.

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